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IS 2393 (2010): PARALLEL PINS, OF UNHARDENED STEEL AND [PGD 31: Bolts, Nuts and Fasteners Accessories]

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अकठोरीकृत इस्पात और आस्टेनिटिक स्टेनलेस इस्पात की समांतर पिन

(तीसरा पुनरीक्षण)

Indian Standard

PARALLEL PINS, OF UNHARDENED STEEL AND AUSTENITIC STAINLESS STEEL

(Third Revision)

ICS 21.060.50

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

December 2010 **Price Group 2**

Bolts, Nuts and Fasteners Accessories Sectional Committee, PG 31

NATIONAL FOREWORD

This Indian Standard (Third Revision) which is identical with ISO 2338 : 1997 ‘Parallel pins, of unhardened steel and austenitic stainless steel’ issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Bolts, Nuts and Fasteners Accessories Sectional Committee and approval of the Production and General Engineering Division Council.

This standard was originally issued in 1963 and revised in 1972 and 1980. The earlier edition was based on ISO 2338 : 1972 ‘Parallel pins, unhardened-metric series’. This third revision has been harmonized with ISO 2338 : 1997 by adoption to make pace with the latest developments taken place at international level.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their respective places are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 3269 : 1988[1] Fasteners — Acceptance inspection	IS 1367 (Part 17) : 2005 Technical supply conditions for threaded steel fasteners: Part 17 Inspections, sampling and acceptance procedure (*fourth revision*)	Technically Equivalent
ISO 3506-1 : 1997 Mechanical properties of corrosion-resistant stainless steel fasteners — Part 1: Bolts, screws and studs	IS 1367 (Part 14/Sec 1) : 2002 Technical supply conditions for threaded steel fasteners: Part 14 Mechanical properties of corrosion-resistant stainless steel fasteners, Section 1 Bolts, screws and studs (*third revision*)	Identical
ISO 4042 : 1999 Fasteners — Electroplated coatings	IS 1367 (Part 11) : 2002 Technical supply conditions for threaded steel fasteners: Part 11 Electroplated coatings (*third revision*)	do

The technical committee has reviewed the provisions of the following International Standards referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

International Standard	*Title*
ISO 9717 : 1990	Phosphate conversion coatings for metals — Method of specifying requirements

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[1] Since revised in 2000.

(*Continued on third cover*)

Indian Standard

PARALLEL PINS, OF UNHARDENED STEEL AND AUSTENITIC STAINLESS STEEL

(Third Revision)

1 Scope

This International Standard specifies the characteristics of parallel pins of unhardened steel and austenitic stainless steel, with nominal diameters d from 0,6 mm to 50 mm inclusive.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3269:1988, *Fasteners – Acceptance inspection.*

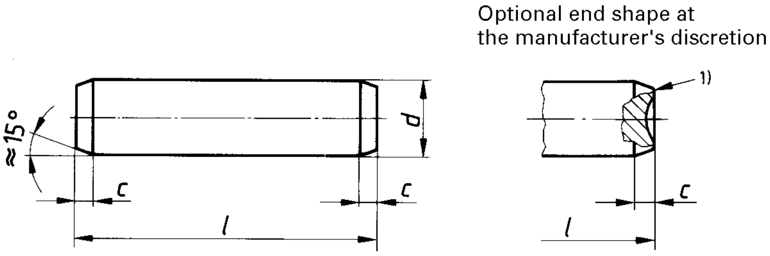
ISO 3506-1:1997, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 1: Bolts, screws and studs.*

ISO 4042:–[1], *Fasteners – Electroplated coatings.*

ISO 9717:1990, *Phosphate conversion coatings for metals – Method of specifying requirements.*

3 Dimensions

See figure 1 and table 1.



1) Radius and dimpled pin end permissible

Figure 1

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[1] To be published. (Revision of ISO 4042:1989)

Table 1 — Dimensions

Dimensions in millimetres

d		m6/h8 1)	0,6	0,8	1	1,2	1,5	2	2,5	3	4	5	6	8	10	12	16	20	25	30	40	50
c		≈	0,12	0,16	0,2	0,25	0,3	0,35	0,4	0,5	0,63	0,8	1,2	1,6	2	2,5	3	3,5	4	5	6,3	8
l 2)																						
nom.	min.	max.																				
2	1,75	2,25																				
3	2,75	3,25																				
4	3,75	4,25																				
5	4,75	5,25																				
6	5,75	6,25																				
8	7,75	8,25																				
10	9,75	10,25																				
12	11,5	12,5							Range													
14	13,5	14,5																				
16	15,5	16,5																				
18	17,5	18,5																				
20	19,5	20,5																				
22	21,5	22,5																				
24	23,5	24,5									of											
26	25,5	26,5																				
28	27,5	28,5																				
30	29,5	30,5																				
32	31,5	32,5																				
35	34,5	35,5																				
40	39,5	40,5													commercial							
45	44,5	45,5																				
50	49,5	50,5																				
55	54,25	55,75																				
60	59,25	60,75																				
65	64,25	65,75																				
70	69,25	70,75																lengths				
75	74,25	75,75																				
80	79,25	80,75																				
85	84,25	85,75																				
90	89,25	90,75																				
95	94,25	95,75																				
100	99,25	100,75																				
120	119,25	120,75																				
140	139,25	140,75																				
160	159,25	160,75																				
180	179,25	180,75																				
200	199,25	200,75																				

1) Other tolerances as agreed between customer and supplier.

2) For nominal lengths above 200 mm, steps of 20 mm.

4 Requirements and reference International Standards

See table 2.

Table 2 — Requirements and reference International Standards

Material1)	Steel (St)	Austenitic stainless steel
	Hardness 125 HV30 to 245 HV30	A1 in accordance with ISO 3506-1, hardness 210 HV30 to 280 HV30
Surface finish	Plain, i.e. pins to be supplied in natural finish treated with a protective lubricant, unless otherwise specified by agreement between customer and supplier.	Plain, i.e. pins to be supplied in natural finish.
	Preferred coatings are black oxide, phosphate coating or zinc plating with chromate conversion coating (see ISO 9717 and ISO 4042). Other coatings as agreed between customer and supplier. All tolerances shall apply prior to the application of a plating or coating.	
Surface roughness	For pins with tolerance class m6: $R_a \leqslant 0{,}8\ \mu m$ For pins with tolerance class h8: $R_a \leqslant 1{,}6\ \mu m$	
Workmanship	Pins shall be free of irregularities or detrimental defects. No burrs shall appear on any part of the pin.	
Acceptability	The acceptance procedure is covered in ISO 3269.	

1) Other materials as agreed between customer and supplier.

5 Designation

EXAMPLE 1
An unhardened steel parallel pin, with nominal diameter d = 6 mm, tolerance class m6 and nominal length l = 30 mm is designated as follows:

Parallel pin ISO 2338 – 6 m6 × 30 – St

EXAMPLE 2
An unhardened austenitic stainless steel pin of grade A1, with nominal diameter d = 6 mm, tolerance class m6 and nominal length l = 30 mm is designated as follows:

Parallel pin ISO 2338 – 6 m6 × 30 – A1

NATIONAL ANNEX A

(*National Foreword*)

A-1 PACKAGING

The packaging shall be in accordance with IS 1367 (Part 18) : 1996 'Industrial fasteners — Threaded steel fasteners — Technical supply conditions: Part 18 Packaging (*third revision*)'.

A-2 BIS CERTIFICATION MARKING

The product may also be marked with the Standard Mark.

A-2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from Bureau of Indian Standards.

(*Continued from second cover*)

The standard also makes a reference to the BIS Certification Marking of the product, details of which is given in National Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard alongwith amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

This Indian Standard has been developed from Doc No.: PG 31 (1045).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones: 2323 0131, 2323 3375, 2323 9402 *Website*: www.bis.org.in

Regional Offices: *Telephones*

Central	:	Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	2323 7617 2323 3841
Eastern	:	1/14 C.I.T. Scheme VII M, V.I.P. Road, Kankurgachi KOLKATA 700054	2337 8499, 2337 8561 2337 8626, 2337 9120
Northern	:	SCO 335-336, Sector 34-A, CHANDIGARH 160022	260 3843 260 9285
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